Genome organization and long-range regulation of gene expression by enhancers.

Journal: Curr Opin Cell Biol

Publication Year: 2013

Authors: Andrea Smallwood, Bing Ren

PubMed link: 23465541

Funding Grants: Mechanisms of chromatin dynamics at enhancers during ES cell differentiation

Public Summary:

Scientific Abstract:
It is now well accepted that cell-type specific gene regulation is under the purview of enhancers. Great strides have been made recently to characterize and identify enhancers both genetically and epigenetically for multiple cell types and species, but efforts have just begun to link enhancers to their target promoters. Mapping these interactions and understanding how the 3D landscape of the genome constrains such interactions is fundamental to our understanding of mammalian gene regulation. Here, we review recent progress in mapping long-range regulatory interactions in mammalian genomes, focusing on transcriptional enhancers and chromatin organization principles.